

Remarks

Applicants have amended the specification to update cross-references to related applications. Applicants have canceled claims 24-37 in response to the Restriction Requirement and have amended claims 2 and 3 to clarify the claimed invention. Specifically, Applicants have amended claims 2 and 3 to clarify that the core material is formed *in situ* within the sealed structure.

None of these amendments add new matter. Their entry is requested.

Election/Restriction

The Examiner has required restriction of the claims of this application under 35 U.S.C. § 121 into one of the following groups:

- I. Claims 1-23 drawn to an insulated barrier;
- II. Claims 24-31 drawn to a process of making an insulated barrier; and
- III. Claims 32-37 drawn to a vacuum breach sensor.

The Examiner states that Groups I and II are related as process of making and product made. The Examiner further states that the inventions of Groups I and II are distinct because the process as claimed may be used to make a materially different product than the product claimed.

The Examiner states that Groups I and III are related as combination and subcombination. The Examiner further states that the inventions of Groups I and III are distinct because the combination as claimed does not require the particulars of the subcombination and because the subcombination has separate utility.

The Examiner states that Groups II and III are unrelated because the inventions have different modes of operation or functions.

Applicants elect Group I for further prosecution in this application. Applicants make this election without waiver of their rights to file divisional or continuing applications directed to any non-elected subject matter, which claim priority from this application under 35 U.S.C. § 120.

35 U.S.C §102(b)

The Examiner has rejected claims 1 and 5 as being anticipated by Meyer et al., U.S. Patent No. 5,827,385 (hereinafter "Meyer"). Specifically, the Examiner contends that Meyer teaches sheets of gas-impermeable plastic vacuumed-formed shells or trays containing an insulation media. The rejections are respectfully traversed.

Applicants' insulated barrier as defined by claim 1 (as well as the remaining claims) is not anticipated by Meyer because the core material of Applicants' insulated barrier is formed "*in situ*" within the sealed structure (see, e.g., page 16, lines 21-25). Meyer does not disclose an insulated barrier containing a core material formed *in situ*. This aspect of Applicants' claimed invention provides Applicants' insulated barrier with numerous advantages over insulated barriers containing pre-formed insulation media.

First, *in situ* formation allows the core material of the present invention to conform to the shape of the application (see, e.g., page 39, line 24 – page 40, line 5 of published PCT Patent Application WO 02/074842, incorporated by reference in the present application). As a result, Applicants' insulated barrier may be any shape or size (see, e.g. page 30, lines 1-5 of above-mentioned PCT Patent Application WO 02/074842). Insulated barriers containing pre-formed insulation media, in contrast, are constrained by the shape and size of the media (see, e.g., page 10, lines 16-19). For example, paneled insulation media, such as the rigid foam material taught in Meyer, would not be suitable for small or irregularly formed applications because the panels would not fit well within the walls of the application.

Second, as a person having ordinary skill in the art would appreciate, forming the core material *in situ* allows it to bond to the walls of the barrier. As a result, the insulated barrier of the present invention provides increased structural rigidity. Pre-formed insulation media placed in a structure, in contrast, is not bonded to the walls of the structure. These bonds provide increased structural rigidity over barriers containing pre-formed insulation media.

Third, the insulated barrier of the present invention provides increased insulation over barriers containing pre-formed insulated media. Air pockets or gaps within

the insulated barrier that are larger than the porosity of the insulation material greatly increase amount of heat transfer along and through the barrier (see, e.g. page 3, lines 4-15). As discussed above, the core material of the present invention both conforms to the shape of the application and may be bonded to the walls of the barrier, resulting in relatively few gaps or pockets between the core material and the insulated barrier. A barrier with pre-formed insulation media, in contrast, contains many gaps or air pockets as it is difficult to obtain a uniform and close fit between the media and walls of the barrier. For example, attempting to fill a barrier with a pre-formed powdered insulation media, such as the silica powder taught in Meyer, will result in gaps at points along the walls of the barriers that are larger than the porosity of the powder itself. It is particularly difficult to obtain a uniform and close fit between a pre-formed powdered insulation material and the walls of any crevices or recesses that may be present in the barrier. In addition, insulated barriers containing paneled pre-formed insulation materials, such as the rigid foam taught in Meyer, also contain gaps due to imperfect fit between the panels (see, e.g., page 9, lines 5-10).

In Meyer, the insulated barrier does not contain a core material formed *in situ*. The insulated barrier of Meyer contains pre-formed insulation media placed into the thermoformed shell. (column 3, lines 38-44). The media is placed in a mold within a housing, where it is evacuated and the insulated barrier is formed. (column 3, line 52 – column 4, line 25). Nowhere in Meyer is an insulated barrier wherein the core material is formed *in situ* taught or suggested. As discussed above, Applicants' insulated barrier, as defined by claim 1, contains important advantages over the over the insulated barrier of Meyer as a result of the *in situ* formation of its core material.

Thus, for at least these reasons, claim 1 is not anticipated by Meyer and is allowable. In addition, claim 5, which depends from claim 1, is allowable for at least the reasons claim 1 is allowable. Accordingly, Applicants respectfully request the rejection of claims 1 and 5 be withdrawn.

35 U.S.C. § 103(a)

The Examiner has rejected claims 1-5 and 10-14 as being obvious over Meyer, either taken individually or in view of Izu et al., U.S. Patent No. 5,670,224

(hereinafter "Izu"). Specifically, the Examiner contends that Meyer teaches sheets of gas-impermeable plastic vacuumed-formed shells or trays containing an insulation media and Izu teaches a barrier coating on a temperature-sensitive substrate. The Examiner has also rejected claims 6-9 and 15-22 as being obvious over Meyer in view of what the Examiner refers to as Applicants' admitted prior art. The rejections are respectfully traversed.

As amended, the claims of the present invention specify that the "core material is formed *in situ*." And, as described above in the previous section, Meyer does not teach or suggest an insulated barrier wherein the "core material is formed *in situ*" within the structure. Indeed, Meyer teaches away from such an insulated barrier. Meyer discloses two preferred insulation media, silica powder and rigid foam material, both of which are pre-formed (column 3, lines 39-43 and column 4, lines 38-44). Meyer also teaches placing the shell and a pre-formed insulation media within a mold to manufacture the insulation barrier (column 3, line 51 – column 4, line 26 and FIG. 5). Thus, Meyer teaches away from an insulated barrier wherein the core material is formed *in situ*.

Further, as also described above in the previous section, the fact that the core material of Applicants' invention is formed *in situ* results in an insulated barrier that has important advantages over the insulated barrier taught in Meyer.

Moreover, even if the Examiner's descriptions of Izu and the other references referred to by the Examiner are correct and even if a person of ordinary skill in the art would have been motivated to combine any of these references with Meyer, Applicants' claimed invention still is not rendered obvious. This is so for at least the reasons given above.

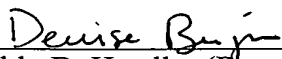
Thus, claims 1-3 are not obvious in view of Meyer and are allowable. In addition, claims 4-22, which depend from claims 1-3, are allowable for at least the reasons claims 1-3 are allowable. Accordingly, Applicants respectfully request the rejection of claims 1-22 be withdrawn.

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Conclusion

In view of the foregoing remarks, Applicants respectfully request reconsideration and early allowance of the pending claims in this application.

Respectfully submitted,



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